INDEX TO VOLUME 109

Names of contributors and of authors of books reviewed are printed in CAPITALS. Titles in quotes, standing alone, are of contributed papers. Titles in *italic*, standing alone, are of books reviewed. Names of new genera, species, varieties, and combinations are printed in **bold face**. Numbers in **bold face** refer to pages where such a name is accompanied by a description or illustration. Numbers in *italic* refer to pages on which a name is listed as a synonym. Page number for a plant entity is given for only the first time it appears in any one article.

Acanthaceae, new species in *Anisacanthus*, 148.

Acer, cambial peroxidase isoenzumes, relation to systematics of, 152.

Acer saccharum: seedlings of, on three resource gradients, niche responses of early and late, 451.

Aconitum, tuberous, of the continental United States, morphological variation, taxonomy and disjunction, 13.

"Additional evidence of inhibition of nitrifiers and possible cycling of inhibitors produced by selected plants in a climax community," 199.

age distribution, of tree species in an Appalachian oak forest in southwest Virginia, 287.

"Age-structure relationships of tree species in an Appalachian oak forest in southwest Virginia," 287.

"*agropyron smithii*," germination and competition with native C_3 and C_4 species under three temperature regimes, 39.

Ahles, Harry E., biography of, 84.

AIROLA, TEUVO and KENNETH BUCHHOLZ: Forest community relationships of the Greenbrook Sanctuary, New Jersey, 205.

allelopathy, exhibited by *Cenchrus ciliaris* L. and *Bothriochloa pertusa* (L.) A. Camus, 513.

ALLEN, EDITH BACH: germination and competition of *Salsola Kali* with native C_3 and C_4 species under three temperature regimes, 39.

Allium type, of the embryo sac of *Xyris schoenoides* Mart. (Xyridaceae), 325.

ALMEDA, F.: Three new Costa Rican species of *Symplocos* (Symplocaceae), 318.

American chestnut: the ecological significance of, in the Holocene forests of Connecticut, 457.

"An analysis of the vegetation of Mt. Cardigan, New Hampshire: a rocky, subalpine New England summit," 177.

anatomical variation, of the xylem of selected dicotyledonous woods, in relation to water availability, 371.

Andropogon species, as inhibitors of nitrifying bacteria, 199.

anemonella, white flowered spring ephemeral, petal flavonoids of, 7.

An Integrated System of Classification of Flowering Plants, 87.

Anisacanthus, in Sonora and Chihuahua, Mexico, 148.

"*Anisacanthus* ***andersonii*** (Acanthaceae), a new species from northwestern Mexico," 148, **149.**

"An oak, hickory-dogwood forest on central Long Island, New York," 219.

Appalachian oak forest, phytomass and nutrient levels in the understory of, in southwest Virginia, 330.

Aquatic and Wetland Plants of Southeastern United States, Dicotyledons, 89.

aquatic, toxicity, of cadmium, to algae, 129.

Arisaema, sex expression of, 47.

"Atlas of foliar surface features in woody plants, IV. Rhododendrons (Ericaceae) of eastern North America," 189.

bamboos (*Chusquea*), growth patterns of, in the understory of Chilean *Nothofagus* forests and their influences in forest dynamics, 474.

bark texture, of tropical trees possessing buttresses and smooth bark, 447.

BARR, CHARLES E.: Tissue Culture in Forestry, (Review), 556.

Basic Botany, 2nd. ed., 88.

BASKIN, CAROL C.: (see Baskin, J. M.), 1.

BASKIN, CAROL C.: Seed to Civilization, the Story of Food, (Review), 555.

BASKIN, JERRY M. and CAROL C. BASKIN: Ecological life cycle and temperature relations of seed germination and bud growth of *Scutellaria parvula*, 1.

BATES, DAVID M.: Robert Theodore Clausen, 1911-1981, 549.

BAZZAZ, F. A.: (see Parrish, J. A. D.), 451.

beech, American, production of viable seed by, 542.

Biology and Ecology of Weeds, 554.

biomass accumulation ratio, of dwarfed *Pinus rigida* from the New Jersey Pine Barren Plains, 24.

BISSING, D. R.: Variation in qualitative anatomical features of the xylem of selected dicotyledonous woods in relation to water availability, 371.

bituminous stripmining, in spoils in western Pennsylvania, and the distribution and ecology of *Pisolithus tinctorius*, 35.

BLISS, MARGARET: (see Siccama, Thomas G.), 162.

BOERNER, RALPH C. J.: an inexpensive tension-free lysimeter for use in sandy soils, 80.

BOOM, BRIAN M. and SCOTT A. MORI: Falsification of two hypotheses on liana exclusion from tropical trees possessing buttresses and smooth bark, 447.

Bothriochloa pertusa, interference with growth of other species exhibited by, 513.

Bouteloua gracilis, germination and competition with native C_3 and C_4 species under three temperature regimes, 39.

Brassica juncea, pathogenesis of *Macrophomina phaseolina* on, related to phosphatidase activity, 508.

BRINK, DON: Tuberous *Aconitum* (Ranunculaceae) of

INDEX TO VOLUME 109

Names of contributors and of authors of books reviewed are printed in CAPITALS. Titles in quotes, standing alone, are of contributed papers. Titles in *italic*, standing alone, are of books reviewed. Names of new genera, species, varieties, and combinations are printed in **bold face**. Numbers in **bold face** refer to pages where such a name is accompanied by a description or illustration. Numbers in *italic* refer to pages on which a name is listed as a synonym. Page number for a plant entity is given for only the first time it appears in any one article.

Acanthaceae, new species in *Anisacanthus*, 148.

Acer, cambial peroxidase isoenzumes, relation to systematics of, 152.

Acer saccharum: seedlings of, on three resource gradients, niche responses of early and late, 451.

Aconitum, tuberous, of the continental United States, morphological variation, taxonomy and disjunction, 13.

"Additional evidence of inhibition of nitrifiers and possible cycling of inhibitors produced by selected plants in a climax community," 199.

age distribution, of tree species in an Appalachian oak forest in southwest Virginia, 287.

"Age-structure relationships of tree species in an Appalachian oak forest in southwest Virginia," 287.

"*agropyron smithii*," germination and competition with native C_3 and C_4 species under three temperature regimes, 39.

Ahles, Harry E., biography of, 84.

AIROLA, TEUVO and KENNETH BUCHHOLZ: Forest community relationships of the Greenbrook Sanctuary, New Jersey, 205.

allelopathy, exhibited by *Cenchrus ciliaris* L. and *Bothriochloa pertusa* (L.) A. Camus, 513.

ALLEN, EDITH BACH: germination and competition of *Salsola Kali* with native C_3 and C_4 species under three temperature regimes, 39.

Allium type, of the embryo sac of *Xyris schoenoides* Mart. (Xyridaceae), 325.

ALMEDA, F.: Three new Costa Rican species of *Symplocos* (Symplocaceae), 318.

American chestnut: the ecological significance of, in the Holocene forests of Connecticut, 457.

"An analysis of the vegetation of Mt. Cardigan, New Hampshire: a rocky, subalpine New England summit," 177.

anatomical variation, of the xylem of selected dicotyledonous woods, in relation to water availability, 371.

Andropogon species, as inhibitors of nitrifying bacteria, 199.

anemonella, white flowered spring ephemeral, petal flavonoids of, 7.

An Integrated System of Classification of Flowering Plants, 87.

Anisacanthus, in Sonora and Chihuahua, Mexico, 148.

"*Anisacanthus* ***andersonii*** (Acanthaceae), a new species from northwestern Mexico," 148, **149.**

"An oak, hickory-dogwood forest on central Long Island, New York," 219.

Appalachian oak forest, phytomass and nutrient levels in the understory of, in southwest Virginia, 330.

Aquatic and Wetland Plants of Southeastern United States, Dicotyledons, 89.

aquatic, toxicity, of cadmium, to algae, 129.

Arisaema, sex expression of, 47.

"Atlas of foliar surface features in woody plants, IV. Rhododendrons (Ericaceae) of eastern North America," 189.

bamboos (*Chusquea*), growth patterns of, in the understory of Chilean *Nothofagus* forests and their influences in forest dynamics, 474.

bark texture, of tropical trees possessing buttresses and smooth bark, 447.

BARR, CHARLES E.: Tissue Culture in Forestry, (Review), 556.

Basic Botany, 2nd. ed., 88.

BASKIN, CAROL C.: (see Baskin, J. M.), 1.

BASKIN, CAROL C.: Seed to Civilization, the Story of Food, (Review), 555.

BASKIN, JERRY M. and CAROL C. BASKIN: Ecological life cycle and temperature relations of seed germination and bud growth of *Scutellaria parvula*, 1.

BATES, DAVID M.: Robert Theodore Clausen, 1911-1981, 549.

BAZZAZ, F. A.: (see Parrish, J. A. D.), 451.

beech, American, production of viable seed by, 542.

Biology and Ecology of Weeds, 554.

biomass accumulation ratio, of dwarfed *Pinus rigida* from the New Jersey Pine Barren Plains, 24.

BISSING, D. R.: Variation in qualitative anatomical features of the xylem of selected dicotyledonous woods in relation to water availability, 371.

bituminous stripmining, in spoils in western Pennsylvania, and the distribution and ecology of *Pisolithus tinctorius*, 35.

BLISS, MARGARET: (see Siccama, Thomas G.), 162.

BOERNER, RALPH C. J.: an inexpensive tension-free lysimeter for use in sandy soils, 80.

BOOM, BRIAN M. and SCOTT A. MORI: Falsification of two hypotheses on liana exclusion from tropical trees possessing buttresses and smooth bark, 447.

Bothriochloa pertusa, interference with growth of other species exhibited by, 513.

Bouteloua gracilis, germination and competition with native C_3 and C_4 species under three temperature regimes, 39.

Brassica juncea, pathogenesis of *Macrophomina phaseolina* on, related to phosphatidase activity, 508.

BRINK, DON: Tuberous *Aconitum* (Ranunculaceae) of

the continental United States: morphological variation, taxonomy and disjunction, 13.
BROWN, J. H. JR., C. A. CASTAÑEDA and R. J. HINDLE: Floristic relationships and dynamics of hemlock (*Tsuga canadensis*) communities in Rhode Island, 385.
BUCHHOLZ, KENNETH and RALPH E. GOOD: Density, age structure, biomass and net annual aboveground productivity of dwarfed *Pinus rigida* Mill. from the New Jersey Pine Barren Plains, 24.
BUCHHOLZ, KENNETH: (see Airola, T.), 205.
bud growth, and the ecological life cycle of *Scutellaria parvula*, 1.
buttress roots, of tropical trees possessing buttresses and smooth bark, 447.
Cactaceae, chromosome numbers of, in western North America, 121.
cadmium, effect on growth of and toxicity to *Chlorella*, *Nitzschia* and *Navicula*, 129.
CALHOON, ROBERT E.: (see Greller, Andrew M.), 219.
California, populations of strawberries in, 136.
"Cambial peroxidase isoenzymes in relation to systematics of *Acer*," 152.
carbon translocation, of 14C-photoassimilate in two stoloniferous *Viola* species, 306.
CARTICA, R. J. and J. A. QUINN: Resource allocation and fecundity of populations of *Solidago sempervirens* along a coastal dune gradient, 299.
Carya ovalis, in a forest in central Long Island, 219.
Castanea dentata, the ecological significance of, in the Holocene forests of Connecticut, 457.
CASTAÑEDA, C. A.: (see Brown, J. H., Jr.), 385.
Catalog of Plant Germplasm Available From The Subtropical Horticulture Research Unit, Miami, Florida, 94.
cell toxicity, caused by *Macrophomina* phosphatidase activity, in *Brassica*, 508.
Cenchrus ciliaris, interference with growth of other species, exhibited by, 513.
Central Mineral Region, Texas, vascular flora of granite outcrops in, 344.
"Chemosystematics of *Vernonia* Series *Flexuosae* (Vernonieae: Compositae)," 279.
chemosystematics, of *Vernonia* Series *Flexuosae* (Vernonieae: Compositae), 279.
chemotaxonomy, of maple (*Acer*), 152.
Chenopodium pratericola, germination and competition with native C_3 and C_4 species under three temperature regimes, 39.
Chihuahua, Mexico, new species of *Anisacanthus* in, 148.
Chile, growth patterns of *Chusquea* bamboos in the understory of *Nothofagus* forests and their influences in forest dynamics, 474.
Chlorella, growth responses of, to cadmium, 129.
"Chromosome numbers in some cacti of western North America. IV.," 121.
chromosome numbers, in some cacti of western North America, 121.
Chusquea bamboos, growth patterns of, in the understory of Chilean *Nothofagus* forests and their influences in forest dynamics, 474.
CLAUSEN, ROBERT T., biography of, 549.
climax community, herb and shrub dynamics of, 64.
climax vegetation, as inhibitors of nitrifying bacteria, 199.
cluster analysis, of floristic relationships and dynamics of hemlock (*Tsuga canadensis*) communities in Rhode Island, 385.
of wetland forests of Tompkins County, New York, 51.
Coastal Plain, edaphic factors and vegetation in Virginia swamps of, 365.
community gradient analysis, of tree spatial patterns and interactions in South Carolina bottomland and swamp forests, 529.
community types, relation to California strawberry populations, 136.
competition, with native C_3 and C_4 species under three temperature regimes, by *Salsola Kali*, 39.
Compositae, chemosystematics of, *Vernonia* Series *Flexuosae*, 279.
Constance, Lincoln: An Integrated System of Classification of Flowering Plants, (Review), 87.
Cornus, as a component of a Long Island forest, 219.
Costa Rica, three new species of *Symplocos* in, 318.
^{14}C-photoassimilate, translocation of, in two stoloniferous *Viola* species, 306.
Crataegus mollis, seedlings of, on three resource gradients, niche responses of, 451.
cuticle, features of, in North American rhododendrons, 189.
DANIEL, THOMAS F.: *Anisacanthus* ***andersonii*** (Acanthaceae), a new species from northwestern Mexico, 148, **149.**
DAVISON, SARA E. and RICHARD T. T. FORMAN: Herb and shrub dynamics in a mature oak forest: a thirty-year study, 64.
"Decline of Red Spruce in the Green Mountains of Vermont," 162.
diameter distribution, of tree species in an Appalachian oak forest in southwest Virginia, 287.
dicotyledons, variation in qualitative anatomical features of the xylem of, in relation to water availability, 371.
dieback, of red spruce in Vermont, 162.
disjunction, of the tuberous *Aconitum* species of the continental United States, 13.
disturbance, of hemlock (*Tsuga canadensis*) communities in Rhode Island, 385.
of riparian vegetation along Passage Creek, VA, 488.
dioecy, in the sex expression of the Jack-in-the-Pulpit, 47.
dormancy, of *Pontederia cordata* L., 524.
DROUET, FRANCIS: Introduction and Guide to the Marine Bluegreen Algae, (Review), 227.
ecological anatomy, of the xylem of selected dicotyledonous woods in relation to water availability, 371.
"Edaphic factors and vegetation in Virginia Coastal Plain swamps," 365.
edaphic factors, in Virginia Coastal Plain swamps, 365.
"Edgar Theodore Wherry, 1885-1982," 545.
Edwards Plateau, vascular flora of granite outcrops in, Central Mineral Region of Texas, 344.
EHRENFELD, JOAN: Biology and Ecology of Weeds, (Review), 554.

embryo sac, of *Xyris schoenoides* Mart., 325.
environmental gradients, in wetland forests of Tompkins County, New York, 51.
Erythronium, flowering frequency and vegetative reproduction in two species of, 169.
EWING, JOSEPHINE W. and RICHARD M. KLEIN: Sex expression in Jack-in-the-Pulpit, 47.
Fagus grandifolia, production of viable seed by, 542.
"Falsification of two hypotheses on liana exclusion from tropical trees possessing buttresses and smooth bark," 447.
fecundity, of populations of *Solidago sempervirens* along a coastal dune gradient, 299.
female gametophyte, of *Xyris schoenoides* Mart, 325.
FERREN, WAYNE R., JR.: Freshwater Wetlands: A Guide to Common Indicator Plants of the Northeast, (Review), 90.
fire, effect on density, age structure, biomass and net annual aboveground productivity of dwarfed *Pinus rigida* Mill. from the New Jersey Pine Barren Plains, 24.
fire control records, of the westernmost portion of Great Smoky Mountain National Park, 74.
fire scars in the westernmost portion of Great Smoky Mountains National Park, 74.
flavonoids, chemosystematics of, in *Vernonia*, 279.
in petals of white flowered spring ephemerals, 7.
floods, along Passage Creek, VA, and riparian-forest ecology, 488.
Flora del Parque Nacional Puyehue, 92.
"Floristic relationships and dynamics of hemlock (*Tsuga canadensis*) communities in Rhode Island," 385.
floristics, of granite outcrops in the Central Mineral Region of Texas, 344.
"Flowering frequency and vegetative reproduction in *Erythronium albidum* and *E. propullans*, and related observations," 169.
flowering frequency, of two *Erythronium* species, 169.
forest community relationships, in Greenbrook Sanctuary, New Jersey, 205.
"Forest community relationships of the Greenbrook Sanctuary, New Jersey," 205.
forest composition, in central Long Island, 219.
forest ecology, of South Carolina bottomland and swamp forests, 529.
forest records, of New York City Dept. of Parks and Recreation, reliability of, 537.
FOREMAN, RICHARD T. T.: (see Davison, S. E.), 64.
FORMAN, RICHARD T. T.: Mosses of Eastern North America, (Review), 227.
Fragaria chiloensis, 136; *vesca*, 136; *virginiana* subsp. *glauca*, 136.
Fragaria of California, multivariate and population relationships, relation to community types, 136.
freshwater tidal wetland, *Pontederia cordata* in, 524.
Freshwater Wetlands: A Guide to Common Indicator Plants of the Northeast, 90.
GEHRIS, CLARENCE W.: Basic Botany, 2nd. ed., (Review), 88.
Genera of the Western Plants, 555.
GENSEL, WILLIAM H.: (see Hardin, J. W.), 189.
Georgia, herb-soil relationships in, on a lower north slope over marble, 500.
germination, and competition with native C_3 and C_4 species under three temperature regimes, of *Salsola Kali*, 39.
"Germination and dormancy studies of *Pontederia cordata* L." 524.
glaciation, and the wetland forest of Tompkins County, New York, 51.
Gleditsia triacanthos, seedlings of, on three resource gradients, niche responses of, 451.
GOOD, BILLY J. and STEPHEN A. WHIPPLE: Tree spatial patterns: South Carolina bottomland and swamp forests, 529.
granite outcrops, vascular flora of, in the Central Mineral Region of Texas, 344.
GRAVES, JAMES H. and CARL D. MONK: Herb-soil relationships on a lower north slope over marble, 500.
Greenbrook Sanctuary, New Jersey, a managed Residual Open Space, 205.
GRELLER, ANDREW, JAMES M. MANSKY and ROBERT E. CALHOON: An oak, hickory-dogwood forest on central Long Island, New York, 219.
growth, of *Chlorella*, *Navicula* and *Nitzschia*, as affected by cadmium, 129.
"Growth patterns of *Chusquea* bamboos in the understory of Chilean *Nothofagus* forests and their influences in forest dynamics," 474.
HAMMOND, H. DAVID: Catalog of Plant Germplasm Available From The Subtropical Horticulture Research Unit, Miami, Florida, (Review), 94.
HANCOCK, JAMES F., JR.: (see Jensen, Richard J.), 136.
HARDIN, JAMES W. and WILLIAM H. GENSEL: Atlas of foliar surface features in woody plants, IV. Rhododendrons (Ericaceae) of eastern North America, 189.
HARMON, MARK: Fire history of the westernmost portion of Great Smoky Mountains National Park, 74.
"Harry E. Ahles, 1904–1981," 84.
HELD, ABRAHAM A.: Predominantly Holocarpic and Eucarpic Simple Biflagellate Phycomycetes, (Review), 557.
hemlock, floristic relationships and dynamics of communities in Rhode Island, 385.
herb cover, over marble on a lower north slope, Georgia, 500.
herb layer, and shrub dynamics in a mature Appalachian oak forest, 64.
"Herb-soil relationships on a lower north slope over marble," 500.
HEUSSER, CALVIN J.: Flora del Parque Nacional Puyehue, (Review), 92.
HEUSSER, CALVIN J.: The Botany of Auckland. A Book For All Seasons, (Review), 230.
HINDLE, R. J.: (see Brown, J. H., Jr.), 385.
historical accounts, of the westernmost portion of Great Smoky Mountains National Park, 74.
Holocene, forests of Connecticut, the ecological significance of American Chestnut in the, 457.
HUENNEKE, LAURA FOSTER: "Wetland forests of Tompkins County, New York," 51.
HUPP, CLIFF R.: Stream grade variation and riparian-forest ecology along Passage Creek, Virginia, 488.
HUSSAIN, FARRUKH, HIMAYAT HUSSAIN NAQVI and IHSAN ILAHI: Interference exhibited by *Cenchrus ciliaris* L. and *Bothriochloa pertusa* (L.) A. Camus, 513.

Hutcheson Memorial Forest, a thirty year study, of herb and shrub dynamics in a mature oak forest, 64.
ILAHI, IHSAN: (see Hussain, Farrukh), 513.
indicator species, on lower north slopes over marble, 500.
inhibition of nitrifying bacteria, by climax community species, 199.
"Interference exhibited by *Cenchrus ciliaris* L. and *Bothriochloa pertusa* (L.) A. Camus." 513.
Introduction and Guide to the Marine Bluegreen Algae, 227.
Jeffersonia, a white flowered spring ephemeral, petal flavonoids of, 7.
JENSEN, RICHARD J. and JAMES F. HANCOCK, JR.: Multivariate relationships among California strawberries, 136.
JENSEN, THOMAS E.: (see Rachlin, Joseph W.), 129.
JONES, S. B.: (see King, B. L.), 279.
KEIL, DAVID J.: Trees and Shrubs of the Southwestern Deserts, (Review), 229.
KING, B. L. and S. B. JONES: Chemosystematics of *Vernonia* Series *Flexuosae* (Vernonieae: Compositae), 279.
KLEIN, RICHARD M.: (see Ewing, J. W.), 47.
Larix, and distribution of *Pisolithus tinctorius* on bituminous stripmine spoils, 35.
leaf surface, features of, in North American *Rhododendron*, 189.
Lepidium densiflorum, germination and competition with native C_3 and C_4 species under three temperature regimes, 39.
lianas, falsification of two hypotheses on exclusion from tropical trees possessing buttresses and smooth bark, 447.
life-forms, of the vascular flora of granite outcrops in the Central Mineral Region of Texas, 344.
LODHI, M. A. K.: Additional evidence of inhibition of nitrifiers and possible cycling of inhibitors produced by selected plants in a climax community, 199.
LOEB, ROBERT E.: Reliability of the New York City Department of Parks and Recreation's forest records, 537.
Long Island, New York, oak, hickory-dogwood forest on, 219.
lysimeter, used in sandy, porous soils, 80.
Macrophomina phaseolina, phosphatidase activity related to pathogenesis of, on *Brassica*, 508.
MANSKY, JAMES M.: (see Greller, Andrew M.), 219.
maple, cambial peroxidase isoenzymes of, in relation to systematics, 152.
marble, herb-soil relationships over, on a lower north slope, 500.
MARTIN, W. L., T. L. SHARIK, and D. WM. SMITH: Phytomass and nutrient levels in the understory of an Appalachian oak forest in southwest Virginia, 330.
MEDVE, RICHARD J. and SHAN M. GILL: Distribution and ecology of *Pisolithus tinctorius* on bituminous stripmine spoils in western Pennsylvania, 35.
membrane impairment, of *Brassica juncea* cells, by *Macrophomina phaseolina*, 508.
Mexico, *Anisacanthus **andersonii***, a new species, in, 148.
MOELLER, ROBERT E.: (see Whitney, G. G.), 177.
MONK, CARL D.: (see Graves, James H.), 500.
monoecy, in the sex expression of the Jack-in-the-Pulpit, 47.
montane boreal forest, decline of red spruce in, 162.
MORI, A. SCOTT: (see Boom, Brian M.), 447.
MORLEY, THOMAS: Flowering frequency and vegetative reproduction in *Erythronium albidum* and *E. propullans*, and related observations, 169.
morphology, of the tuberous *Aconitum* species of the continental United States, 13.
Mosses of Eastern North America, 227.
Mt. Cardigan, New Hampshire, subalpine vegetation of, 177.
"Multivariate relationships among California strawberries," 136.
multivariate relationships, of California strawberry populations, 136.
mycorrhizae, of *Pisolithus tinctorius*, on bituminous stripmine spoils in western Pennsylvania, 35.
NAQVI, HIMAYAT HUSSAIN: (see Hussain, Farrukh), 513.
Navicula, growth responses of, to cadmium, 129.
neotropical trees, possessing buttresses and smooth bark, falsification of two hypotheses on liana exclusion from, 447.
NEWELL, S. J.: Translocation of ^{14}C-photoassimilate in two stoloniferous *Viola* species, 306.
New Hampshire, subalpine vegetation of Mt. Cardigan in, 177.
New Jersey, and management of Residual Open Spaces, 205.
new species, of *Symplocos*, 318.
New York, oak, hickory-dogwood forest on Long Island, 219.
New York City, Dept. of Parks and Recreation, reliability of forest records, 537.
"Niche responses of early and late successional tree seedlings on three resource gradients," 451.
nitrifiers, inhibited by climax community species, 199.
Nitrobacter, inhibited by climax community vegetation, 199.
phenolic compounds as inhibitors of, in a climax community, 199.
Nitrosomonas, inhibited by climax community vegetation, 199.
phenolic compounds as inhibitors of, in a climax community, 199.
Nitzschia, growth responses of, to cadmium, 129.
nonequilibrium systems, subject to relatively frequent disturbance along Passage Creek, VA, 488.
north slopes, herb-soil relationships on, over marble, 500.
nutrients, levels of, in the understory of an Appalachian oak forest in southwest Virginia, 330.
oak forest, Appalachian age-structure of tree species in, southwest Virginia, 287.
a thirty year study of herb and shrub dynamics, 64.
in central Long Island, 219.
PAILLET FREDERICK L.: The ecological significance of American Chestnut (*Castanea dentata* (Marsh.) Borkh.) in the Holocene forests of Connecticut, 457.

Palisades, New Jersey, and management of Residual Open Spaces, 205.
PARFITT, BRUCE D.: (see Pinkava, D. J.), 121.
PARRISH, J. A. D. and F. A. BAZZAZ: Niche responses of early and late successional tree seedlings on three resource gradients, 451.
PARSONS, S. E. and S. WARE: Edaphic factors and vegetation in Virginia Coastal Plain swamps, 356.
pathogenesis, of *Macrophomina phaseolina* on *Brassica juncea*, 508.
PETERSEN, FRANK P.: Plant Taxonomy and Biosystematics, (Review), 88.
phenolic compounds, as inhibitors of nitrifying bacteria, 199.
"Phosphatidase activity in *Brassica juncea* plants infected with isolates of *Macrophomina phaseolina* and its role in pathogenesis," 508.
phosphatidase, activity of in *Brassica*, related to pathogenesis by *Macrophomina*, 508.
"Phytomass and nutrient levels in the understory of an Appalachian oak forest in southwest Virginia," 330.
phytomass, in the understory of a southwest Virginia Appalachian oak forest, 330.
Picea, and the distribution of *Pisolithus* on bituminous stripmine spoils, 35.
Picea rubens, decline of, in Vermont, 162.
Pine Barrens, use of a tension-free lysimeter in, 80.
PINKAVA, DONALD J. and BRUCE D. PARFITT: Chromosome numbers in some cacti of western North America, IV., 121.
Pinus, and the distribution of *Pisolithus* on bituminous stripmine spoils, 35.
Pinus taeda, seedlings of, on three resource gradients, niche responses of, 451.
Pisolithus tinctorius, distribution and ecology of, on bituminous stripmine spoils in western Pennsylvania, 35.
plant distribution, on granite outcrops in the Central Mineral Region of Texas, 344.
plant ecology, along Passage Creek, Virginia, 488.
Plant Taxonomy and Biosystematics, 88.
Podophyllum, a white flowered spring ephemeral, petal flavonoids of, 7.
pollination, in white flowered spring ephemerals, 7.
Pontederia cordata, germination and dormancy studies of, 524.
population dynamics, of red spruce in Vermont, 162.
population relationships, of California strawberries, 136.
populations, of *Solidago sempervirens* along a coastal dune gradient, 299.
Populus, and the distribution of *Pisolithus* in bituminous stripmine spoils, 35.
Predominantly Holocarpic and Eucarpic Simple Biflagellate Phycomycetes, 557.
"Production of viable seed by the American beech (*Fagus grandifolia*)," 542.
protoplast death, in *Brassica*, caused by *Macrophomina*, 508.
Quercus, species of, as components of a Long Island forest, 219.
Quercus rubra, seedlings of, on three resource gradients niche responses of, 451.
QUINN, J. A.: (see Cartica, R. J.), 299.
RACHLIN, JOSEPH W., WARKENTINE, BARBARA and JENSEN, THOMAS E.: The growth of *Chlorella saccharophila, Navicula incerta* and *Nitzschia closterium* to selected concentrations of cadmium, 129.
RAJU, M. V. S.: (see Ramaswamy, S. N.), 325.
RAMASWAMY, S. N. and M. V. S. RAJU: The embryo sac of *Xyris schoenoides* Mart. (Xyridaceae), 325.
reciprocal averaging ordination, of vegetation of Mt. Cardigan, New Hampshire, 177.
"Reliability of the New York City Department of Parks and Recreation's forest records," 537.
reproductive effort, of populations of *Solidago sempervirens* along a coastal dune gradient, 299.
reproductive strategy, of the American chestnut in the Holocene forests of Connecticut, 457.
Residual Open Spaces, management of, in urbanized area, 205.
"Resource allocation and fecundity of populations of *Solidago sempervirens* along a coastal dune gradient," 299.
resource allocation, of populations of *Solidago sempervirens* along a coastal dune gradient, 299.
Rheophytes of the World: An Account of the Flood-resistant Flowering Plants and Ferns and the Theory of Autonomous Evolution, 231.
Rhode Island, floristic relationships and dynamics of hemlock (*Tsuga canadensis*) communities in, 385.
Rhododendron, foliar surface features of North American species, 189.
riparian vegetation, along Passage Creek, Virginia, 488.
"Robert Theodore Clausen, 1911-1981," 549.
root exudates, interference with growth by, from *Cenchrus ciliaris* and *Bothriochloa pertusa*, 513.
ROSS, M. S., T. L. SHARIK, and D. WM. SMITH: Age-structure relationships of tree species in an Appalachian oak forest in southwest Virginia, 287.
RUDOLPH, EMANUEL D.: The Shaping of Cambridge Botany, (Review), 93.
Salsola Kali, germination and competition with native C_3 and C_4 species under three temperature regimes, 39.
sand dunes, resource allocation and fecundity of populations of seaside goldenrod on, 299.
Sanguinaria, a white flowered spring ephemeral, petal flavonoids of, 7.
SANTAMOUR, FRANK S., JR.: Cambial peroxidase isoenzymes in relation to systematics of *Acer*, 152.
SCHILLING, EDWARD E. and PATRICK J. CALIE: Petals flavonoids of white flowered spring ephemerals, 7.
SCHUYLER, ALFRED E.: Aquatic and Wetland Plants of Southeastern United States, Dicotyledons, (Review), 89.
Scutellaria, seed germination and bud growth of, 1.
Seed to Civilization, the Story of Food, 555.
seed, viable, production by American beech, 542.
seed germination, and bud growth of *Scutellaria parvula*, 1.
of *Pontederia cordata* L., 524.
self-caused declination, of *Cenchrus ciliaris* and *Bothriochloa pertusa*, 513.
SEM, used to observe foliar surface features in *Rhododendron*, 189.

sex expression, in the Jack-in-the-Pulpit, 47.
SHARIK, T. L.: (see Martin, W. L.), 330.
SHARIK, T. L.: (see Ross, M. S.), 287.
shrub layer, and herb dynamics in a mature oak forest, 64.
SICCAMA, THOMAS G., MARGARET BLISS, and H. W. VOGELMANN: Decline of Red Spruce in the Green Mountains of Vermont, 162.
SIMPSON, ROBERT L.: (see Whigham, Dennis F.), 524.
SMITH, D. WM.: (see Martin, W. L.), 330.
SMITH, D. WM.: (see Ross, M. S.), 287.
soil charcoal, in the westernmost portion of Great Smoky Mountains National Parks, 74.
moisture, in the ecological life cycle and temperature relations of seed germination and bud growth of *Scutellaria parvula*, 1.
nutrients, from a lysimeter used in sandy soils, 80.
texture, in the wetland of Tompkins County, New York, 51.
water, in sandy soils, as determined by a tension-free lysimeter, 80.
Solidago sempervirens, resource allocation and fecundity of populations of, along a coastal dune gradient, 299.
Sonora, Mexico, new species of *Anisacanthus* in, 148.
South America, chemosystematics of *Vernonia* in, 279.
Southeast, and vascular flora of granite outcrops, in Texas, 344.
southeastern deciduous forests, tree spatial patterns in, 529.
spatial pattern analysis, of trees in South Carolina bottomland and swamp forests, 529.
Srivastava, S. K. and Shashi; Dhawan: Phosphatidase activity in *Brassica juncea* plants infected with isolates of *Macrophomina phaseolina* and its role in pathogenesis, 508.
STALTER, RICHARD: Production of viable seed by the American beech (*Fagus grandifolia*), 542.
STALTER, RICHARD: Genera of the Western Plants, (Review), 555.
stand structure, of tree species in an Appalachian oak forest in southwest Virginia, 287.
stream grade, variation along Passage Creek, VA, 488.
"Stream grade variation and riparian-forest ecology along Passage Creek, Virginia," 488.
STUCKEY, RONALD L.: Rheophytes of the World . . . , (Review), 231.
subalpine vegetation, of Mt. Cardigan, New Hampshire, 177.
succession, and floristic relationships and dynamics of Hemlock (*Tsuga canadensis*) communities in Rhode Island, 385.
and niche responses of tree seedlings on three resource gradients, 451.
as a factor in inhibition of nitrifying bacteria, 199.
surface mining, and distribution of *Pisolithus tinctorius*, 35.
swamps, edaphic factors and vegetation in, Virginia Coastal Plain, 365.
Symplocos, three new Costa Rican species of, 318.
***Symplocos oreophila*, 318, 319; *povedae*, 318, 321; *tribracteolata*, 318, 323.**
temperature, in the ecological life cycle of seed germination and bud growth of *Scutellaria parvula*, 1.
three regimes of, and the germination and competition of *Salsola Kali* with native C_3 and C_4 species, 39.
Texas, the vascular flora of granite outcrops in the Central Mineral Region of, 344.
The Botany of Auckland. A Book For All Seasons, 230.
"The ecological significance of American Chestnut (*Castanea dentata* (Marsh.) Borkh.) in the Holocene forests of Connecticut," 457.
"The embryo sac of *Xyris schoenoides* Mart. (Xyridaceae)," 325.
"The growth responses of *Chlorella saccharophila*, *Navicula incerta* and *Nitzschia closterium* to selected concentrations of cadmium," 129.
The Illustrated Flora of Illinois. Flowering Plants. Magnolias to Pitcher Plants, 92.
The Shaping of Cambridge Botany. A Short History of Whole Plant Botany in Cambridge from the Time of Ray into the Present Century, 93.
"The vascular flora of granite outcrops in the Central Mineral Region of Texas," 344.
THIERET, JOHN W.: The Illustrated Flora of Illinois. Flowering Plants. Magnolias to Pitcher Plants, (Review), 92.
"Three new Costa Rican species of *Symplocos* (Symplocaceae), 318.
Tilia americana, seedlings of, on three resource gradients, niche responses of, 451.
TIPPO, OSWALD: Harry E. Ahles, 1924–1981, 84.
Tissue Culture in Forestry, 556.
"Translocation of ^{14}C-photoassimilate in two stoloniferous *Viola* species," 306.
tree regeneration, in the understory of Chilean *Nothofagus* forests, 474.
Trees and Shrubs of the Southwestern Deserts, 3rd. ed., 229.
"Tree spatial patterns: South Carolina bottomland and swamp forests," 529.
trichomes, on leaves of North American rhododendrons, 189.
Tsuga canadensis, floristic relationships and dynamics of, communities in Rhode Island, 385.
tuberization, in the ecological life cycle and temperature relations of seed germination and bud growth in *Scutellaria parvula*, 1.
understory influences, by *Chusquea* bamboos in Chilean *Nothofagus* forests, 474.
"Variation in qualitative anatomical features of the xylem of selected dicotyledonous woods in relation to water availability," 371.
variation, taxonomy and disjunction in the tuberous *Aconitum* species of the continental United States, 13.
VEBLEN, THOMAS T.: Growth patterns of *Chusquea* bamboos in the understory of Chilean *Nothofagus* forests and their influences in forest dynamics, 474.
vegetation, in the understory of an Appalachian oak forest in southwest Virginia, 330.
in Virginia Coastal Plain swamps, 365.
of hemlock (*Tsuga canadensis*) communities in Rhode Island, 385.
vegetative reproduction, in two *Erythronium* species, 169.

relation to density, age structure, biomass and net annual above ground productivity of dwarfed *Pinus rigida* Mill. from the New Jersey Pine Barren Plains, 24.
vegetative spread, and translocation of ^{14}C-photoassimilate in two stoloniferous *Viola* species, 306.
Vermont, decline of red spruce in, 162.
Vernonia, chemosystematics of, 279.
Viola, translocation of ^{14}C-photoassimilate in two stoloniferous species, 306.
Virginia, age-structure relationships of tree species in an Appalachian oak forest in southwest, 287.
edaphic factors and vegetation in Coastal Plain swamps of, 365.
phytomass and nutrient levels in the understory of an Appalachian oak forest in southwest, 330.
VOGELMANN, H. W.: (see Siccama, T. G.), 162.
WAGNER, WARREN H. JR.: Edgar Theodore Wherry, 1885-1982, 545.
WALTERS, T. W. and ROBERT WYATT: The vascular flora of granite outcrops in the Central Mineral Region of Texas, 344.
WARE, S.: (see Parsons, S. E.), 365.
WARKENTINE, BARBARA: (see Rachlin, J. D.), 129.
Water levels, in the wetland forest of Tompkins County, New York, 51.
Wetland forest, of Tompkins County, New York, 51.
WHERRY, EDGAR T., biography of, 545.
WHIGHAM, DENNIS F. and ROBERT L. SIMPSON: Germination and dormancy studies of *Pontederia cordata* L., 524.
WHIPPLE, STEPHEN A.: (see Good, Billy J.), 529.
WHITNEY, GORDON G., and ROBERT E. MOELLER: An analysis of the vegetation of Mt. Cardigan, New Hampshire: a rocky, subalpine New England summit, 177.
wood anatomy, of selected dicotyledonous woods in relation to water availability, 371.
WYATT, ROBERT: (see Walters, T. W.), 344.
xylem, variation in qualitative anatomical features of, of selected dicotyledonous woods in relation to water availability, 371.
Xyris schoenoides, the embryo sac of, 325.